

REMARKS

Summary of the Office Action

Claim 1 stands rejected under 35 U.S.C. § 102(b) as being anticipated by Stanek (US 6,046,754).

Claims 1-7 and 12-14 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Eichenlaub (US 6,590,605).

Claims 7-11 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Tabata et al. (US 6,417,895).

Claim 13 stands rejected under 35 U.S.C. § 102(b) as being anticipated by Mosley (US 5,583,674).

Summary of the Response to the Office Action

Applicant has amended claims 1 and 7 to further define the invention, and amended claim 14 to correct a minor informality. Accordingly, claims 1-14 are pending for further consideration.

All Claims Define Allowable Subject Matter

Claim 1 stands rejected under 35 U.S.C. § 102(b) as being anticipated by Stanek (US 6,046,754), claims 1-7 and 12-14 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Eichenlaub (US 6,590,605), claims 7-11 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Tabata et al. (US 6,417,895), and claim 13 stands rejected under 35 U.S.C. § 102(b) as being anticipated by Mosley (US 5,583,674). Applicant respectfully traverses these rejections for at least the following reasons.

Independent claim 1, as amended, recites a liquid crystal display device including “a light shutter parallel to the liquid crystal display panel operable to transmit and shut off a light emitted from the liquid crystal display panel.” Similarly, independent claim 7, as amended, recites an apparatus for driving a liquid crystal display including “a light shutter on the liquid crystal display panel operable to transmit and shut off a light emitted from the liquid crystal display panel.”

In contrast to Applicant’s claimed invention, Stanek discloses, in FIG. 2A, a shutter device 200 provided on one side of the display 20 in order to limit viewability from angles other than directly in front of the computer 10. Accordingly, Applicant respectfully asserts that Stanek is completely silent with respect to “a light shutter parallel to the liquid crystal display panel operable to transmit and shut off a light emitted from the liquid crystal display panel,” as recited by independent claim 1, and hence dependent claims 2-6.

In further contrast to Applicant’s claimed invention, Eichenlaub discloses in FIG. 1, a stereoscopic display device, wherein a secondary LCD 35 changes a polarization direction based upon application of a voltage. Specifically, Applicant respectfully asserts that Eichenlaub teaches (col. 3, lines 31-34) that when no voltage is applied across the second liquid crystal layer 38, light simply passes through it and through the polarized strips 32 of the second polarizing sheet. Similarly, Eichenlaub teaches (col. 3, lines 42-47) that when voltage is applied across the second liquid crystal layer 38, the polarization direction of the light passing through it changes by 90 degrees, and is blocked by the polarizing strips 32 in the second polarization layer 27. However, Eichenlaub expressly discloses that the light “freely passes through the clear slits 33 between the polarizing strips 32.” Accordingly, Applicant

respectfully asserts that Eichenlaub teaches constant transmission of light through a display device. Thus, Eichenlaub fails to teach or suggest “a light shutter parallel to the liquid crystal display panel operable to transmit and shut off a light emitted from the liquid crystal display panel,” as recited by amended independent claim 1, and hence dependent claims 2-6.

Similarly, Eichenlaub fails to teach or suggest an apparatus for driving a liquid crystal display including “a light shutter on the liquid crystal display panel operable to transmit and shut off a light emitted from the liquid crystal display panel,” as recited by amended independent claim 7, and hence dependent claims 8-12.

With regard to Tabata et al., Applicant respectfully submits that the alleged light shutter 4, in FIG. 1 of Tabata et al., is actually a polarization switching liquid crystal cell that constantly transmits light. For example, Tabata et al. teaches (col. 5, lines 8-11) that the polarization switching liquid crystal cell 4 time-sequentially polarizes an incident beam, which comes from the LCD 3 and passes through a plurality of portions thereof, in units of a portion, and emits resultant light. Thus, Applicant respectfully asserts that Tabata et al. teaches constant transmission of light through the polarization switching liquid crystal cell 4.

Independent claim 13 recites a method of driving a liquid crystal display panel having a light shutter including the step of “opening the light shutter at an initial interval applying the video data and closing the light shutter in a maintenance interval maintaining the video data to shut off a light from the liquid crystal display panel.” In contrast to Applicant’s claimed invention, Eichenlaub teaches constant transmission of light through a display device, as detailed above. Moreover, Mosley teaches a ferroelectric liquid crystal shutter 20 that constantly transmits light. For example, Mosley teaches (col. 4, lines 26-32) a ferroelectric

liquid crystal shutter 20 that is operated to switch the polarization of light incident on a lens 15 between a first state in which the light is essentially perpendicular to the orientation of a liquid crystal director in a non-electrode region to a second state in which the light is essentially parallel to the liquid crystal director in the non-electrode regions. Specifically, Mosley discloses (col. 4, lines 32-39) that the second display 14 is viewed when both the on and off regions of the lens present the same refractive index to light transmitted therethrough, and that the first display 13 is viewed when there are difference refractive indices between the electrode and non-electrode regions of the lens. In addition, according to Mosely “[b]y switching the ferroelectric shutter 20 between the two polarization states, the first display 13 comes into and out of focus to present an image which is overlaid on the second display 14.” Accordingly, contrary to the allegations presented by the Examiner (page 10, lines 12-16), Mosely does, in fact, explicitly disclose that the shutter 20 continuously transmits light. Thus, Applicant respectfully asserts that Mosley fails to teach or suggest a method of driving a liquid crystal display panel having a light shutter including the step of “opening the light shutter at an initial interval applying the video data and closing the light shutter in a maintenance interval maintaining the video data to shut off a light from the liquid crystal display panel,” as recited by independent claim 13, and hence dependent claim 14.

For at least the above reasons, Applicant respectfully submits that claims 1-14 are neither taught nor suggested by the applied prior art references, whether taken alone or in combination. Thus, Applicant respectfully asserts that the rejections under 35 U.S.C. §§ 102(b) and 102(e) should be withdrawn because the above-discussed novel combination of features are neither taught nor suggested by any of the applied references.

CONCLUSION


In view of the foregoing amendments and remarks, Applicant respectfully requests the reconsideration and the timely allowance of the pending claims. Should the Examiner believe that there are any issues outstanding after consideration of this response, the Examiner is invited to contact Applicants' undersigned representative to expedite prosecution.

If there are any other fees due in connection with the filing of this response, please charge the fees to our Deposit Account No. 50-0310. If a fee is required for an extension of time under 37 C.F.R. § 1.136 not accounted for above, such an extension is requested and the fee should also be charged to our Deposit Account.

Respectfully submitted,

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